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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/982,702	10/18/2001	Kirk T. O'Reilly	005950-714	8619

7590

05/17/2004

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EXAMINER

CHOI, FRANK I

ART UNIT

PAPER NUMBER

1616

DATE MAILED: 05/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/982,702	Applicant(s) O'REILLY ET AL.	
	Examiner Frank I Choi	Art Unit 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,9,11-17 and 19-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 24-28 is/are allowed.
- 6) ☒ Claim(s) 1-6,9,11-17 and 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 11 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Williams et al. (US Pat. 5,641,411).

Williams et al. expressly discloses a method of neutralizing biocides, including glutaraldehyde, with a neutralizer including cysteine, falling within the scope of applicant's claims (Examples 1,2,6,12,13, Claims 1-12).

Alternatively, at the very least the claimed invention is rendered obvious within the meaning of 35 USC 103, because the prior art discloses products and uses that contain the same exact ingredients/components as that of the claimed invention. See *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980). See also *In re May*, 197 USPQ 601, 607 (CCPA 1978); *Ex parte Novitski*, 26 USPQ2d 1389, 1390-91 (Bd Pat. App. & Inter. 1993).

Examiner has duly considered Applicant's arguments but deems them unpersuasive.

Glutaraldehyde is an aldehyde and cysteine is a primary amine, as such, the method falls within the scope of the claimed invention.

Claims 1-6, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Union Carbide (1999) in view of the acknowledged prior art for the reasons of record set forth in the prior Office Action in further view of Williams et al. and the further reasons below.

Union Carbide teaches that glutaraldehyde is used in virtually every industry where the control of microorganisms in process waters is essential to the quality of processes and products, including water-cooling towers and other recirculating water systems (Pgs. 1, 7). It is taught that the cell walls of all living organisms contain free amine groups that serve as the reactive site for glutaraldehyde attack (Pg. 2). Effective concentrations are taught including concentrations ranging from 5 ppm to 1000 ppm (pg. 3). It is taught that glutaraldehyde can also be deactivated chemically by addition of sodium bisulfite or sodium hydroxide prior to discharge into municipal or industrial sewers or disposal by appropriate means (Pg. 8).

Applicant acknowledges that cooling water is necessary in the Fischer-Tropsch synthesis of liquid fuels and that although cooling water can be recirculated eventually the cooling water must be disposed (Pgs. 1,2). Applicant further acknowledges that cooling water requires the use of biocides to control microbial growth but that contamination of the environment with residual biocides can be a problem (Pg. 2). Further, where biological oxidation facilities are used the biocides in the cooling water disposed can kill or inactivate the microorganisms used in said facility (Pg. 2).

Williams et al. is cited herein for the same reasons as above and is incorporated herein to avoid repetition.

The difference between the prior art and the claimed invention is that the prior art does not expressly disclose a method of inhibiting growth and reproduction of microorganisms in a cooling water system used in an industrial process where a deactivatable biocide is added to the cooling water and adding an effective amount of a neutralizing agent to the cooling water to deactivate the biocide before or upon disposal of the cooling water. However, the prior art amply suggests the same as the prior art teaches that glutaraldehyde is a deactivatable biocide and that is desired to deactivate biocides before disposal of cooling water. As such, one of ordinary skill in the art would be motivated to modify the prior art as above with the expectation that method will minimize environmental pollution due to the presence of residual biocides.

Examiner has duly considered Applicant's arguments but deems them unpersuasive. The claims indicate that a primary amine is a suitable deactivation agent. Cysteine contains a primary amine as such the limitation of the claim are met.

Therefore, the claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention has been collectively taught by the combined teachings of the reference and acknowledged prior art.

Claims 1-6, 9, 11-17, 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Union Carbide (1999) in view of the acknowledged prior art, Quann et al. (US Pat. 4,686,317) and Hitzman et al. (US Pat. 3,642,578) for the reasons of record set forth in the prior Office Action in further view of Williams et al. and the further reasons below.

Union Carbide and the acknowledged prior art are cited for the same reasons as above and are incorporated herein to avoid repetition.

Quann et al. teaches methods of removing oxygenated compounds, i.e. aldehydes, produced during Fischer-Tropsch process from the desired light olefinic compounds by distillation (See entire document).

Hitzman et al. teaches that nitrogen containing compounds convert biodeleterious aldehydes which are produced from Fischer-Tropsch synthesis to products which are used by microbes as feedstocks (Column 1, lines 47-56, Column 3, lines 66-68, Column 3, lines 73-75, Column 4, lines 1-17).

Williams et al. is cited herein for the same reasons as above and is incorporated herein to avoid repetition.

The difference between the prior art and the claimed invention is that the prior art does not expressly disclose a method of inhibiting growth and reproduction of microorganisms in a cooling water system used in an industrial process where a deactivatable biocide is added to the cooling water and adding an effective amount of a neutralizing agent to the cooling water to deactivate the biocide before or upon disposal of the cooling water. However, the prior art amply suggests the same as the prior art teaches that glutaraldehyde is a deactivatable biocide, that nitrogen compounds deactivate biodeleterious aldehydes, that it is desired to deactivate biocides before disposal of cooling water and that the biodeleterious aldehydes can be produced in-situ and separated from the desired Fischer-Tropsch products. As such, one of ordinary skill in the art would be motivated to modify the prior art as above with the expectation that method will minimize environmental pollution due to the presence of residual biocides and that the biocidal aldehydes can be conveniently obtained from the same process which produces the desired Fischer-Tropsch products.

Examiner has duly considered Applicant's arguments but deems them unpersuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 231 USPQ 375 (Fed. Cir. 1986). Further, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Contrary to Applicant's arguments, Examiner has provided motivation to modify the prior art as indicated above. In response to applicant's argument that the documents are from significantly different areas of technology, to the extent Applicant is arguing that the references are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Applicant is concerned with deactivation of biocides including that formed from Fischer Tropsch process such that the resultant product will not be antimicrobial. Each of the references are reasonably pertinent in that Union Carbide and Williams discloses that glutaraldehyde is deactivatable, Quann discloses the removal of aldehydes from Fischer Tropsch processes and Hitzman discloses converting deleterious aldehydes from Fischer Tropsch processes into products which will support microbial growth. As indicated above, there is no requirement that each reference disclose every component of the invention.

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Contrary to Applicant's arguments, the prior art does disclose the irreversible conversion of aldehydes, including the use of nitrogen compounds falling within the scope of the claimed nitrogen-containing compounds, prior to or upon disposal of the water, and which will support microbial growth as indicated above. Contrary to Applicant's arguments, the prior art does disclose isolation of aldehydes, including distillation and subjecting the oxygenates to form said aldehydes, and use of aldehydes in cooling water, as indicated above. Claims 24-28 were not rejected herein, as such, Applicant's arguments with respect to the same are moot.

Therefore, the claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention has been collectively taught by the combined teachings of the reference and acknowledged prior art.

Conclusion

Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 11/12/2003 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

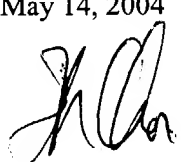
A facsimile center has been established in Technology Center 1600. The hours of operation are Monday through Friday, 8:45 AM to 4:45 PM. The telecopier number for accessing the facsimile machine is (703) 872-9306.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Choi whose telephone number is (571)272-0610. Examiner maintains a flexible schedule. However, Examiner may generally be reached Monday-Friday, 8:00 am – 5:30 pm (EST), except the first Friday of the each biweek which is Examiner's normally scheduled day off.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Mr. Thurman Page, can be reached at (571)272-0602. Additionally, Technology Center 1600's Receptionist and Customer Service can be reached at (571) 272-1600.

FIC

May 14, 2004


ALTON N. PRYOR
PRIMARY EXAMINER
A. U. 1616